

to RN. This has also translated into a reduced risk of all cause mortality in large population series receiving PN as compared to RN, as a result of a lower rate of cardiovascular events potentially driven by CKD. Backed by these data, current guidelines (NCCN 2015, EAU 2014 and AUA 2009) make strong recommendations for PN in all T1a (up to 4 cm) and whenever feasible in T1b (4-7 cm) kidney cancers. The recommendation becomes imperative in patients with baseline CKD, bilateral tumours or tumour in a solitary kidney. Surprisingly, the only level I evidence available from a European RCT could not prove equivalence between PN and RN. While the trial did not meet accrual goals (541 out of 1300 patients required), overall survival (the primary study end point) at 9.3 years of follow up was eventually better in the RN arm in spite of a better preserved renal function in the PN arm. Notably more cardiovascular events were observed in the PN group! All these observations taken together suggest that the survival advantage of PN over RN observed in large retrospective series or meta-analyses is likely the effect of unaccountable selection biases in favour of PN (healthier patients more likely to be treated with PN). The beneficial effect of PN on kidney function is out of question, yet its clinical relevancy (= reduced risk of non cancer related morbidity) is restricted to patients with baseline CKD. Up to 30% of patients with SRM have some degree of baseline CKD and hence would require a PN that must be performed with surgical skill in order to optimize both oncological efficacy (negative surgical margin) and kidney function preservation (keep ischemia time < 25 minutes or even lower). The currently available surgical techniques (open, laparoscopic and robotic assisted) have all proved effective to accomplish a PN matching the criteria for both oncological and functional efficacy.

SP-0201

Stereotactic radiotherapy for renal cell carcinoma: the hidden treasure or the forbidden kingdom

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Renal-cell carcinoma (RCC) is considered to be a radioresistant tumour, but this dogma is wrong and based on traditional radiation schedules. If given in a few (even single) fractions, but at a high fraction dose (stereotactic body radiotherapy or SBRT), RCC becomes highly radiosensitive. Both in the primary setting and in treatment of oligometastatic disease, local control rates >90% are achieved. There is an established biological rationale for the radiosensitivity of renal-cell carcinoma to SBRT which is based on the ceramide pathway, which is activated only when a high dose per fraction is given. This pathway does not involve damage at the DNA level (nucleus) but at the level of the cell membrane. The ultimate target of this pathway is the tumour vasculature, similar to lots of targeted drugs.

Apart from the direct effect of SBRT on renal-cell carcinoma, stereotactic body radiotherapy can also induce an abscopal effect. This effect, caused by immunological processes and involving dendritic cells, might be enhanced when targeted drugs and stereotactic body radiotherapy are combined. Therefore, rigorous, prospective randomized trials involving a multidisciplinary scientific panel are needed urgently. The presence of a radiation oncologist in such panels is vital.

This oral presentation will focus on:

1. Radiobiology of SBRT in RCC (ceramide pathway).
2. Rationale for the abscopal effect.
3. Local control rates of SBRT in RCC.
4. Interaction between targeted drugs and SBRT.
5. Increasing visibility of radiation oncology in this setting.

Further reading

1. De Meerleer G, Khoo V, Escudier B, et al. Radiotherapy for renal-cell carcinoma. *Lancet Oncol* 2015; 15:e170-7.
2. De Wolf K, Vermaelen K, De Meerleer G, et al. The potential of radiotherapy to enhance the efficacy of renal cell carcinoma radiotherapy. *Oncoimmunology* 2015; 4:e1042198.

SP-0202

Ablative treatment for renal cancer

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There has been an increase in incidence of small renal masses over the last two decades. There is evidence that nephron sparing surgery offers equivalent long-term oncological results compared to radical nephrectomy. More recent evidence suggests that radical nephrectomy is associated with greater chronic renal insufficiency, which is in turn associated with increased risk of cardiovascular death, in patients with localised T1 renal mass. It is for these reasons that nephron sparing surgery is recommended, when technically feasible, for the management of renal tumour smaller than 7 cm.

Partial nephrectomy is the gold standard treatment for small renal masses, however it is associated with a significant morbidity.

Ablative treatments are alternative options that cause necrosis of the renal tumour without removing it. This can be achieved by heating tumour up to 80°C, with radiofrequency, or by freezing it below -40°C with cryosurgery. These percutaneous ablative treatments are performed under CT scan guidance or by laparoscopic approach. The percutaneous approach can be performed under local anaesthesia, which is particularly useful in fragile patients. These two minimally invasive ablative treatments allow, on average, to halve the postoperative morbidity when compared to partial nephrectomy. On the other hand, the risk of local recurrence is higher compared to partial nephrectomy.

Cancer specific survival rate on literature review is quoted around 90 to 95% for T1a (<4 cm) tumours. The 5 years overall survival or metastatic free survival, don't seem to be different from partial nephrectomy, if salvage treatments are proposed in case of local recurrence. To achieve these oncological results, appropriate patient selection along with adequate follow up is required.

According to the various urological guidelines, renal biopsy must be performed prior to these ablative treatments. When a malignant tumour is confirmed histologically, these treatments are recommended for cortical tumours, smaller than 4 cm, ideally in elderly patients or patients with multiple comorbidities who have a reasonable life expectancy. Patients with bilateral synchronous tumours, genetic diseases leading to multiple bilateral recurrences, renal insufficiency or presence of solitary kidney, are also ideal candidates for ablative treatments. Patients with shorter life expectancy, tumours in the hilum or in close proximity to the collecting system and proximal ureter are contraindications. Cryosurgery appears to treat central tumours with less morbidity compared to radiofrequency ablation. Close radiological follow up is required. Renal CT scan or MRI is usually performed at regular intervals looking for any possible enhancement of recurrent/residual tumour.

Conclusion: Partial nephrectomy remains the gold standard treatment for management of small renal tumours. Ablative treatment is a validated option associated with a favourable risk benefit balance, especially for fragile patients.

Symposium: Modern techniques for old indications

SP-0203

Robotic surgery and brachytherapy

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The practice of brachytherapy nowadays has been developed decades ago. In the course of years modifications are introduced by the use of different isotopes, the development of afterloading techniques, the introduction of image-guided techniques, and many more. Robotics technologies are on a wide scale increasingly being used in the treatment of patients. Also in brachytherapy this emerging technology has been adopted and is still in development. A robot is a